

Extended distribution of *Phalaenopsis deliciosa* (Orchidaceae) in Goa, Western Ghats, India^a

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Abstract

Phalaenopsis deliciosa is reported for the first time from Goa state (India). Its detailed description, supplemented by photographs for easy identification and information about phenology and distribution as well as habitat, is provided.

Résumé

Extension de la distribution de *Phalaenopsis deliciosa* (Orchidaceae) dans l'état de Goa (Inde, Western Ghats) – *Phalaenopsis deliciosa* est enregistré pour la première fois dans l'état de Goa. L'article propose une description détaillée de l'espèce accompagnée de photographies, pour en faciliter l'identification, ainsi que des informations sur sa phénologie, sa distribution géographique et son habitat.

Introduction

The genus *Phalaenopsis* Blume is widely distributed across Southeast Asia (South India, Sri Lanka, southern China to Taiwan, Indonesia, Thailand, Myanmar, Malaysia, the Philippines, Papua New Guinea) and northern Australia. Whereas Sweet (1980) lists 47 species for the genus, Christenson

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(2001) considers the genus to comprise 62 entities at the species level. The generic name is derived from the Greek words *Phalaena* (moth) and *opsis* (resemblance) and vernacularly, this group of orchids is often referred to as 'moth-orchids'. The majority of species are characterized by rather short, drooping inflorescences which display star-shaped, waxy flowers fairly close to the plant foliage. In India the genus is represented by 14 species (Misra, 2007) distributed throughout the Himalayas, peninsular India and Andaman and Nicobar islands.

The state of Goa is situated on the southwest coast (73° 40'-74° 20' E longitude and 14° 53'-15° 47' N latitude) of India and surrounded by Maharashtra, Karnataka and Arabian Sea (Fig. 1). The total geographical area of the state is approximately 3,702 sq km of which 755 sq km (20%) declared as protected area for flora and fauna. So far c. 34 species of orchids have been reported from Goa state.

Material and methods

During the floristic survey of the Cotigoan wildlife Sanctuary in 2009 the senior author collected several plant species of which this interesting epiphytic orchid species. Three individuals, from a total population of ten plants, were collected in vegetative condition and planted in the orchidarium of the Western Regional Centre, Pune for flowering and further identification. After five years the orchid produced a beautiful small flower allowing to later identify the plant based on literature consultation (Christenson, 2001; Misra, 2004; Sathish Kumar & Manilal, 2004).

Results

The species was identified as *Phalaenopsis deliciosa* Reichenbach f. A further scrutiny of literature (Vartak, 1966; Rao, 1985-86; Karthikeyan, 1996; Naithani *et al.*, 1997; Janarthanam *et al.*, 1999; Datar *et al.*, 2005; Datar & Lakshminarasimhan, 2009; Datar & Lakshminarasimhan, 2013) revealed that it was hitherto unreported from Goa. Hence, the present paper is the first report of the species in the Goa state, which extends its distribution further north in Western Ghats.

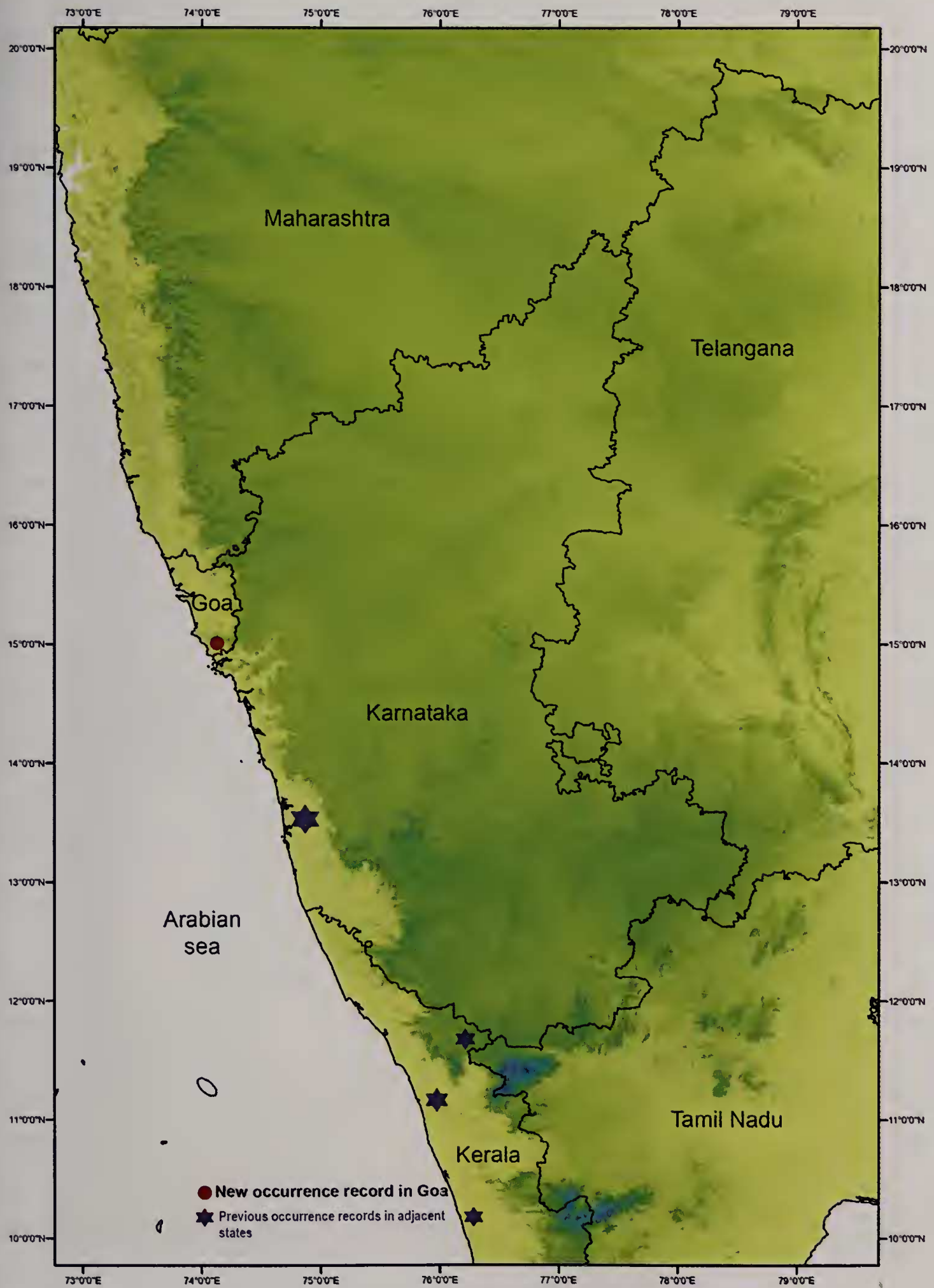


Fig. 1: Location of *Phalaenopsis deliciosa* in Goa and adjacent states

Phalaenopsis deliciosa Reichenbach f., *Bonplandia* 2: 93 (1854)

synonyms:

Kingidium deliciosum (Reichenbach f.) H.R.Sweet, *American Orchid Society Bulletin* 39: 1095 (1970)

Doritis deliciosa (Reichenbach f.) T.Yukawa & K.Kita, *Acta Phytotaxonomica et Geobotanica* 56: 156 (2005)

Stem very short; roots compressed, long, greyish, smooth, strongly depressed to the host substratum; leaves 2, deep glossy green, sessile, thick, flat, obovate to oblong-elliptic, 4-7 × 2.5-3 cm, apex acute, margin undulate; inflorescence 7-10 cm, 2-3-flowered, terete with few minute sterile bracts; flowers 1 cm across, pale yellow with pink lip and column; floral bracts ovate-triangular, ca. 1 mm long, acute; dorsal sepal sub-elliptic, 7 × 3 mm, obtuse, lateral sepals obliquely ovate, 7 × 4 mm, base adnate to column foot, apex obtuse; petals spreading, sub-obovate, 6 × 3 mm, obtuse; lip sessile, 3-lobed, 9 × 6 mm, lateral lobes erect, obliquely elliptic-obovate, base decurrent and forming a broadly conic spur with the base of the mid-lobe, mid-lobe obcordate, pale yellow, with longitudinal violet coloured rays, disc with a white oblong callus, dilated nearly from the base of midlobe and then bifurcated to form two antennae, pointing forward and upward; column with foot ca. 4 mm long, stout, oblong; anther cap nearly sub-globose, ca. 1 × 1 mm, apex sub-truncate and emarginate; pollinia 2, in a pair, semi-globose, stipe curved, flat, hyaline, 1.5 mm long, viscidium small, orbicular. Fig. 2.

Flowering: August.

Habitat & ecology: epiphytes. The vegetation of the Cotigoan wildlife Sanctuary is moist deciduous forest interspersed with semi-evergreen and evergreen forest patches. These forests are dominated by *Syzygium cumini* (Linnaeus) Skeels, *Litsea coriacea* J.D.Hooker, *Ixora pavetta* Andreánszky, *Olea dioica* Roxburgh and the rare palm *Pinanga dicksonii* (Roxburgh) Blume. *Phalaenopsis deliciosa* was found in semi-evergreen forests at 700 m elevation in moist riverine valleys under the dense shade on tree trunks of *Olea dioica*.

Distribution in Goa: Cotigoan wildlife Sanctuary, South Goa.



Fig. 2: *Phalaenopsis deliciosa*

A. Habit; B. flower; C. dorsal sepal; D. lateral sepals; E. petals; F-H. lip; I. ovary, column & lip; J. side lobes of lip; K. mid lobe of lip; L. ovary & column; M. column, N & O. anther cap, P. Pollinarium. (Photographs by J.S.Jalal).

General distribution: India (Uttarakhand, Sikkim, Arunachal Pradesh, Meghalaya, Assam, Jharkhand, Odisha, Andhra Pradesh, Karnataka, Kerala, Tamil Nadu and Andaman Islands), Nepal, Bhutan, China, Bangladesh, Sri Lanka, Myanmar, Thailand, Laos, Vietnam, Cambodia, Malaysia, Indonesia and Philippines.

Specimen examined: India: Goa, Cotigoan wildlife Sanctuary, Ravandongar, 20.11.2009 (flowered in 12.08.2014), C.R.Jadhav & party 184871 (BSI).

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